



Qualification Inspection & Test

Reporting Mark and Car Number UTLX 209301 Shop Location UTCQ Marion, OH
 Stenciled Specification DOT117R100W Built Date (month / yr) 09/2007
 Car Jacketed Car Non-Jacketed Inspection Date (month / yr) 3/16
 Previous Commodity CRUDE OIL
 (If under corrosive listing, see UTC Bad Actor List)

STRUCTURAL INTEGRITY INSPECTION

Report Structural Integrity Inspection on RES-217 forms.
Refer to RES-217 for form instructions.

SAFETY SYSTEMS INSPECTION

Inspection Area	Initial Inspection		
	Date & Initials	Pass	Failed
Insulation and/or Thermal Protection	5-12-16 Fm/TC	X	
Tank Head Puncture Resistance	5-12-16 Fm/TC	X	
Coupler Vertical Restraint	03/29/16 MR	X	
Skid Protection or Breakage Groove on Bottom Outlets and Protective Housing	04/07/2016 BS	X	

Post Repair Inspection	
Date & Initials	Pass

Markings Inspection	Initial Inspection		
	Date & Initials	Pass	Failed
Car Marking Legibility	6/8/16 AJS	X	
All Reflectorization Decals Renewed	6/8/16 AJS	X	

Post Repair Inspection	
Date & Initials	Pass

Lining or Coating Inspection	Initial Inspection			
	Date & Initials	Level	Pass	Failed
Tank Interior	N/A			

Post Repair Inspection	
Date & Initials	Pass

Leakage Pressure Test	Initial Inspection			
	Date & Initials	Level	Pass	Failed
All Product Piping, Fittings and Closures	6-6-16 Jo	2	9	

Post Repair Inspection	
Date & Initials	Pass

Thickness Test	Initial Inspection			
	Date & Initials	Level	Pass	Failed
Tank Shell	04/05/16 BW	2	X	

Post Repair Inspection	
Date & Initials	Pass

Submit all completed forms to: Union Tank Car Company, Attn: Fleet Engineering, Chicago, IL.

FLEET ENG.

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Qualification Inspection & Test

Reporting Mark and Car Number UTLX 209301

Shop Location UTCO Marion, OH

Inspection Date (month / yr) 6/2016

SERVICE EQUIPMENT INSPECTION

Inspection Areas	Initial Inspection					Post Repair Inspection			
	Date & Initials	Material			Failed	Date & Initials	Material		
		CS	SST	Pass			CS	SST	Pass
Valves / Fittings	6-6-16 /K		J	✓					
Piping (Education Tubes)	6-6-16 /K	J		✓					
Fittings Flange	6-6-16 /K	J		✓					
Excess Flow Valve with Threaded Seals for Tightness	N/A								
Thermowell and Gauging Device	N/A								
Manway Cover	6-6-16 /K	J		✓					
Vacuum Relief Valve	6-6-16 /K	J		✓					
Pressure Relief Valve / Vent / Combination Device		J		✓					
Interior Heater System (200 psi Hydrotest)	N/A								

INSPECTION AND TEST COMPLETION DUE DATES

Inspections	Station Stencil	Qualified Date	Due Date
Tank Qualification	UTCO	2016	2026
Thickness Test	UTCO	2016	2026
Service Equipment	UTCO	2016	2026
PRD: VALVE 75 PSI	UTCO	2016	2026
INT HTR			
Lining	N/A		
88b Inspection	UTCO	2016	2026
Stub Sill Inspection	UTCO	2016	2026

Supervisor


Signature

Date

6/6/16

JASON OVEY
Printed Name

Submit all completed forms to: Union Tank Car Company, Attn: Fleet Engineering, Chicago, IL.

TCID Tank Car Inspection Detail: UTLX0000209301

Report of Alterations, Conversions, Welded Repairs, and Stub Sill Inspections

Date of Entry: 2018-09-13

Equip. Initial/No.: UTLX0000209301

Stencil Class: 117R100W

Built Date: 2007-09-10

Car Jacketed: 1

Reserved 2 (design specific): 65.5

Builder: UTLX

Stub Sill Design Variation: Continuous

Constructed Car Spec.: 111A100W1

Inspect./Report Type: Tank Qualification, Stub Sill Inspection, Conversion

Railroad Responsibility: 0

Stub Sill Deformation (B End): 0

Tank Contain. Failure: 0

Facility Rep. Name: SHIRLEY STALLINGS

Station Stencil: UTCO

Shop Location: MARION, OHIO

Inspection Date: 2016-03-29

Reserved 1 (design specific): 1

Original AAR Cert. No.: L077017

Stub Sill Design (as inspected): UTLZBG

Miles (x1000): 371

Car Spec. After Mod.: 117R100W

Nature of Damage: N/A

Stub Sill Deformation (A End): 0

Last Tank Qual Year: 2007

No. of Compartments: 1

Submitted By:

Alterations and Conversions

Compartment No.	Change Category	Drawing Number	AAR Approval Ref. No.	Drawing Comments
1	Arrangement	511657B	M-157044A	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars
1	Assembly	511847A	M-157044A	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars
1	Assembly	511844AA	M-157044A	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars
1	Top Fitting Model	510047A (3")	E-107011	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars
1	Top Fitting Model	507858A (2")	E-107011	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars
1	Part	509978C	E-087019	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars
1	PRD Model	85381U	PRD-127009	Appro. 39669-A - HM-251 - UTC - NINC - Legacy Cars

Weld Inspection Results

Inspection Results	Compartment No. (weld)	Weld Code	Weld Location	Inspection Technique	No. of Cracks	Max Crack Length	Crack Orientation Code 1	Crack Orientation Code 2	Crack Orientation Code 3	How Repaired (weld)
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Shell/Sill Inspection Results

Failed Component	Compartment No. (shell)	Failure Type	Failure Cause	How Repaired (shell)	Crack Length	Repair Location	Inspection Method
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**TCID
Report of Tank Car Inspection**

RES 217-1
Rev.A 1/21/2015

*P.P.
S.S.
T.H.*

1. Car Mark	UTLX	2. Car Number	209301
3. Station Stencil	UTCO	4. Stencil Class	DOT117R100W
5. Shop Location (Town)	Marion	6. State or Province	Ohio
7. Built Date (YYYY / MM / DD)	2007 / 09 / 10	8. Date of Work or Inspection (YYYY / MM / DD)	2016 / 03 / 29
9. Car Jacketed	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	10. Head Brace	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
11. Car Overhang (Inches)	65.50	12. Original AAR Certificate of Construction Number	2077017 <i>2077017</i>
13. Builder	UNION TANK CAR	14. Stub Sill Design Style (as inspected)	UTLZBG
15. Stub Sill Design Variation	Continuous: <input checked="" type="checkbox"/> Non-Continuous: <input type="checkbox"/> N/A: <input type="checkbox"/>	16. Total Miles in Thousands of Miles (actual cumulative mileage)	371,000
17. Constructed Car Specification	DOT111A100W	18. Car Specification (after modification per R-1)	DOT117R100W
19. Inspection / Report Type	Tank Qualification: <input checked="" type="checkbox"/> Stub Sill Inspection: <input checked="" type="checkbox"/> Alteration: <input checked="" type="checkbox"/> Conversion: <input checked="" type="checkbox"/> Other: <input type="checkbox"/>	20. Nature of Damage	Accident: <input type="checkbox"/> Non-Accident: <input type="checkbox"/> N/A: <input checked="" type="checkbox"/>
21. Railroad Responsibility	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	22. Stub Sill Deformation	A - End: <input type="checkbox"/> B - End: <input type="checkbox"/>
23. Year of Last Tank Qualification	2007	24. Tank Containment Failure	(Check if YES) <input type="checkbox"/>

**R-1 PREPARATION REPORT
(ALTERATIONS AND CONVERSIONS)**

Nature of Change	HM-251 CONVERSION. Removed the 2" UNNR McKenzie valve and applied a 2" 2-UFR-3636TT McKenzie valve.
Procedure (reference UTC drawings, if applicable)	39669, Dwg. 511657-02, 511658-02, 511910-01, 511847-01, 511844-01, 60327-1S
25. Identify Fittings by Vendor Identification Number	13988, 1855, 4002, 8373, 206, 2151, 16711, 976, 4925, 977, 2319, 799, 1842, 5060, 4211, 14547, 6294, 7122, 15376

COMMENTS:

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RECEIVED
FLEET ENG

Facility Rep. Name: _____

Submitted By: _____

HEAD BRACE AND DRAFT SILL WELD INSPECTION							
Weld Code	Description	Location	Inspection Technique	Number of Cracks	Max Crack Length (0.00)	Crack Orientation Code	How Repaired
B1	Outboard transverse weld (top of sill flange). Full length of weld, inspect from top of sill.	A-End	NA				
		B-End	NA				
C1	Head brace to sill transverse weld. Full length of weld including portion which curves around corner of head brace.	A-End	VT	0			
		B-End	VT	0			
C2	Head brace to sill longitudinal weld. Full length of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			
D1	Head brace to pad transverse weld. Full length of weld including corners.	A-End	VT	0			
		B-End	VT	0			
D2	Head brace to pad longitudinal weld. Full length of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			

Inspection Technique

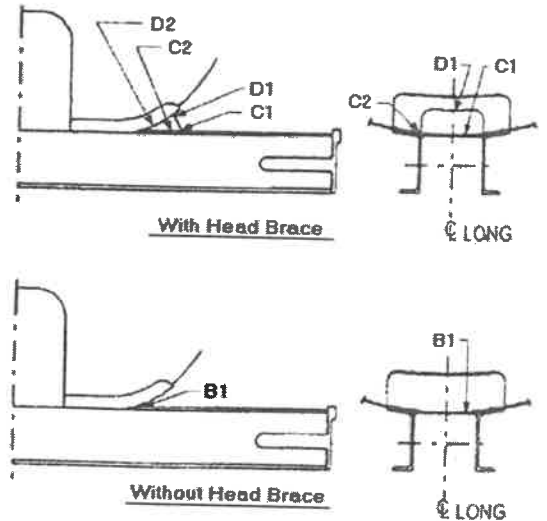
- MT Magnetic Particle
- PT Liquid Penetrant
- RT Radiographic
- RVT Remote Visual
- UT Ultrasonic
- VT Visual
- OT Other

Repair Code

- 5.6 Stub Sill Repairs
- 9.2 Welding of Cracks
- 9.5 Repair Surface Cracks
- 10.1 Patch Plate Repair
- 11.1 Dents / Buckles
- 11.4 Scores and Gouges
- 11.5 Wheel Burns
- 12.2 Welded Inserts and Tank Sections
- 21.0 Repairs to Tank Anchors
- 22.0 Repairs to Fire Damaged Tanks
- 24.1.2A Corrosion Repair > 3/16 in. Deep
- 24.1.2B Corrosion Repair < 3/16 in. Deep
- FM Rule 57 - Center Sills
- FM Rule 82 - Weld Sill Outboard of Tank
- RIK Replaced In Kind

Crack Orientation Code

- WFF Weld Fillet Face
- WTH Weld Toe-To-Head Brace
- WTP Weld Toe-To-Pad
- WTS Weld Toe-To-Sill
- OTH Other



BOLSTER-TO-BOLSTER PAD WELD INSPECTION

Weld Code	Description	Location	Inspection Technique	Number of Cracks	Max Crack Length (0.00)	Crack Orientation Code	How Repaired
SBI	Bolster web, pad and stiffener welds from inboard of body side bearing. Full length of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			
SBO	Bolster web, pad and stiffener welds from outboard of body side bearing. Full length of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			
E2	Bolster bottom cover plate to sill flange longitudinal weld. Full length of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			

Inspection Technique

MT Magnetic Particle
PT Liquid Penetrant
RT Radiographic
RVT Remote Visual
UT Ultrasonic
VT Visual
OT Other

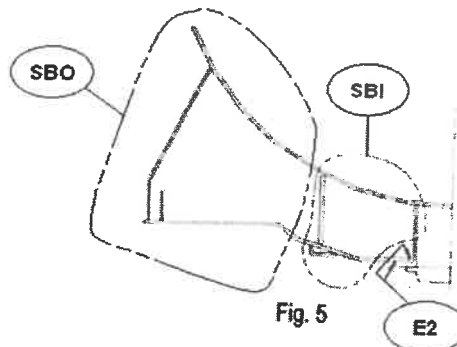
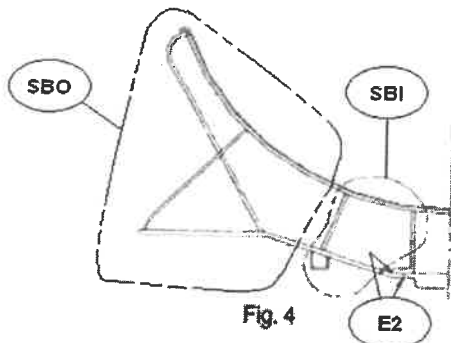
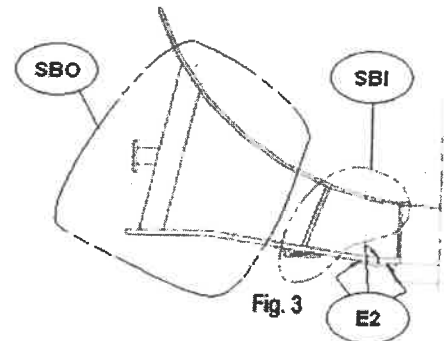
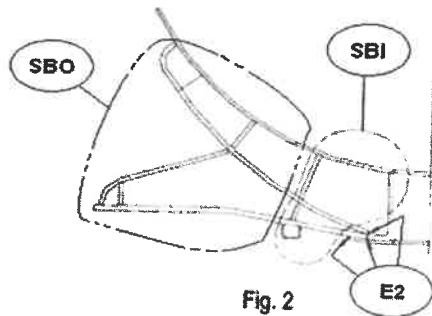
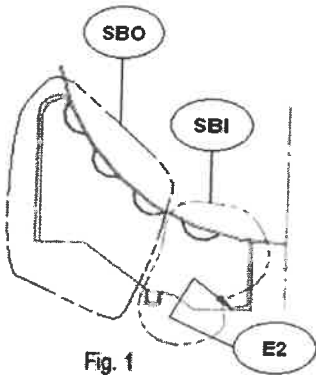
Crack Orientation Code

WBBC Weld Bolster Bottom Cover
WBSC Weld Bolster Web-To-Side Cover
WBSW Weld Bolster Stiffener-To-Web
WBTP Weld Bolster Web-To-Pad
WBTS Weld Bolster Web-To-Sill
WFF Weld Fillet Face
OTH Other

Repair Code

5.6 Stub Sill Repairs
9.2 Welding of Cracks
9.5 Repair Surface Cracks
10.1 Patch Plate Repair
11.1 Dents / Buckles
11.4 Scores and Gouges
11.5 Wheel Burns
12.2 Welded Inserts and Tank Sections
21.0 Repairs to Tank Anchors
22.0 Repairs to Fire Damaged Tanks
24.1.2A Corrosion Repair > 3/16 in. Deep
24.1.2B Corrosion Repair < 3/16 in. Deep
FM Rule 57 - Center Sills
FM Rule 82 - Weld Sill Outboard of Tank
RIK Replaced In Kind

Typical Bolster Designs

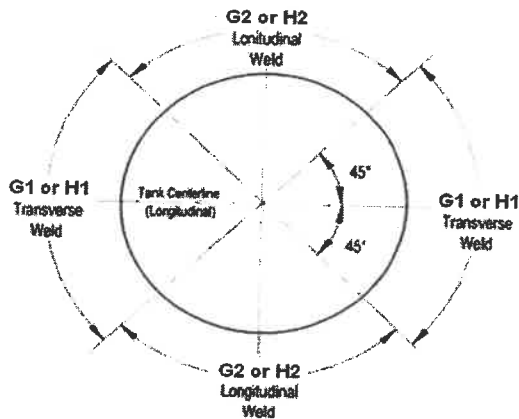


BOV SADDLE WELDS						
Weld Code	Description	Inspection Technique	Number of Cracks	Max Crack Length (0.00)	Crack Orientation Code	How Repaired
G1	Transverse portions of BOV saddle weld. Full length of transverse portions of welds.	VT	0			
		VT	0			
G2	Longitudinal portions of BOV saddle weld. Full length of longitudinal portions of welds.	VT	0			
		VT	0			

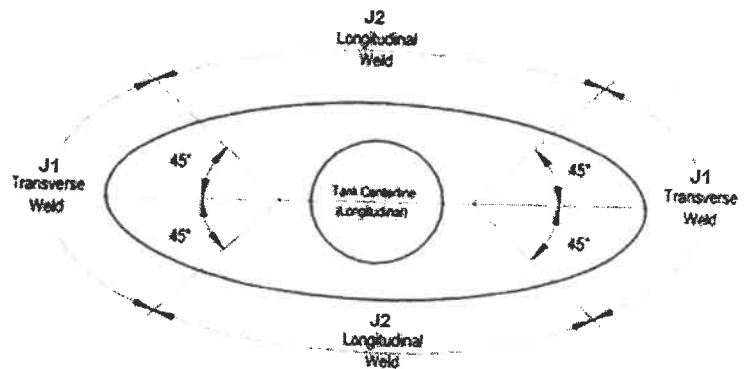
SUMP WELDS						
Weld Code	Description	Inspection Technique	Number of Cracks	Max Crack Length (0.00)	Crack Orientation Code	How Repaired
H1	Transverse portions of sump weld. Full length of transverse portions of welds.	VT	0			
		VT	0			
H2	Longitudinal portions of sump weld. Full length of longitudinal portions of welds.	VT	0			
		VT	0			

BOV SKID WELDS						
Weld Code	Description	Inspection Technique	Number of Cracks	Max Crack Length (0.00)	Crack Orientation Code	How Repaired
J1	Transverse portions of BOV skid weld. Full length of transverse welds.	VT	0			
		VT	0			
J2	Termination of BOV skid longitudinal welds.	VT	0			
		VT	0			

Typical Saddle and Sump Weld Detail



Skid Weld Detail



Inspection Technique

- MT Magnetic Particle
- PT Liquid Penetrant
- RT Radiographic
- RVT Remote Visual
- UT Ultrasonic
- VT Visual
- OT Other

Crack Orientation Code (BOV SADDLE WELDS)

- WFF Weld Fillet Face
- WTSD Weld Toe-To-Saddle
- WTT Weld Toe-To-Tank
- OTH Other

Crack Orientation Code (SUMP WELDS)

- WFF Weld Fillet Face
- WTU Weld Toe-To-Sump
- WTT Weld Toe-To-Tank
- OTH Other

Crack Orientation Code (BOV SKID WELDS)

- WFF Weld Fillet Face
- WTK Weld Toe-To-Skid
- WTT Weld Toe-To-Tank
- OTH Other

Repair Code

- 5.6 Stub Sill Repairs
- 9.2 Welding of Cracks
- 9.5 Repair Surface Cracks
- 10.1 Patch Plate Repair
- 11.1 Dents / Buckles
- 11.4 Scores and Gouges
- 11.5 Wheel Burns
- 12.2 Welded Inserts and Tank Sections
- 21.0 Repairs to Tank Anchors
- 22.0 Repairs to Fire Damaged Tanks
- 24.1.2A Corrosion Repair > 3/16 in. Deep
- 24.1.2B Corrosion Repair < 3/16 in. Deep
- FM Rule 57 - Center Sills
- FM Rule 82 - Weld Sill Outboard of Tank
- RIK Replaced In Kind

Data Template: UTC

PROCBO, PROCBR, PROZBA, PROZBD, PROZBF, PROZBG, PROZBH, PROZBI, PROZBN, UTLCBO, UTLCBR, UTLFBR, UTLZBA, UTLZBB, UTLZBC, UTLZBD, UTLZBE, UTLZBF, UTLZBG, UTLZBH, UTLZBI, UTLZBL, UTLZBN, UTLZBR

ATTACHMENT WELD INSPECTION (SILL TO PAD)

Weld Code	Description	Location	Inspection Technique	Number of Cracks	Max Crack Length (0.00)	Crack Orientation Code	How Repaired
B2	Outboard termination of longitudinal weld (outside of sill). Last 6" of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			
B4	Inboard termination of longitudinal weld (outside of sill). Last 6" of weld including any portion of weld that wraps around sill and connects with B44.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			
B22	Outboard termination of longitudinal weld (inside of sill). Last 6" of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			
B44	Inboard termination of longitudinal weld (inside of sill). Last 6" of weld.	A-End Right	VT	0			
		A-End Left	VT	0			
		B-End Right	VT	0			
		B-End Left	VT	0			

- Inspection Technique**
- MT Magnetic Particle
 - PT Liquid Penetrant
 - RT Radiographic
 - RVT Remote Visual
 - UT Ultrasonic
 - VT Visual
 - OT Other

- Repair Code**
- 5.6 Stub Sill Repairs
 - 9.2 Welding of Cracks
 - 9.5 Repair Surface Cracks
 - 10.1 Patch Plate Repair
 - 11.1 Dents / Buckles
 - 11.4 Scores and Gouges
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 - 12.2 Welded Inserts and Tank Sections
 - 21.0 Repairs to Tank Anchors
 - 22.0 Repairs to Fire Damaged Tanks
 - 24.1.2A Corrosion Repair > 3/16 in. Deep
 - 24.1.2B Corrosion Repair < 3/16 in. Deep
 - FM Rule 57 - Center Sills
 - FM Rule 82 - Weld Sill Outboard of Tank
 - RIK Replaced In Kind

- Crack Orientation Code**
- WFF Weld Fillet Face
 - WTP Weld Toe-To-Pad
 - WTS Weld Toe-To-Sill
 - OTH Other

